



Description of a new species of Conidae Fleming, 1822 from the Mediterranean Sea: *Conopleura aliena* n. sp.

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KEY WORDS: *Conopleura aliena* n. sp., Conidae, Mediterranean Sea.

ABSTRACT

A new species of Conidae Fleming, 1822 is here described from the Mediterranean Sea: *Conopleura aliena* n. sp. Two shells of the new species have been dredged from two distinct geographical areas of the Tyrrhenian Sea and collected from two different kind of marine zones. In particular, the first specimen from a bathyal muddy bottom surrounding a deep-sea coral bank located in the Central Tyrrhenian Sea; the second one from a circalittoral soft bottom located off the coast of Sicily, Southern Tyrrhenian Sea. The systematic position of the new taxon is tentatively assigned to the family Conidae, subfamily Mangeliinae Fischer, 1884, genus *Conopleura* Hinds, 1844, according to the recent revision of the superfamily Conoidea (= Toxoglossa) Rafinesque, 1815 proposed by TAYLOR *et al.* (1993).

RIASSUNTO

Viene proposta una nuova specie di Conidae Fleming, 1822 per il Mar Mediterraneo: *Conopleura aliena* n. sp. Il taxon è descritto solo sulla base dei caratteri conchigliari di due esemplari provenienti da due diverse zone geografiche con differenti tipologie di fondale. Un esemplare è stato dragato da un fondale batiale fangoso circostante una biocenosi a coralli bianchi nel Mar Tirreno Centrale; il secondo è stato raccolto su un fondale del piano circalitorale, a substrato fangoso, della costa siciliana settentrionale (Mar Tirreno Meridionale). Il nuovo taxon, che per le peculiari caratteristiche morfologiche non è avvicinabile a nessuna specie conosciuta per il Mar Mediterraneo e l'adiacente Oceano Atlantico, è stato inserito nella famiglia Conidae, tentativamente nella sottofamiglia Mangeliinae Fischer, 1884, in accordo all'ultimo lavoro di revisione della superfamiglia Conoidea (= Toxoglossa) Rafinesque, 1815 proposto da TAYLOR *et al.* (1993). In questa sottofamiglia è posizionato anche il genere *Conopleura* Hinds, 1844, con la specie tipo *Conopleura striata* Hinds, 1844, originariamente descritta per l'area Indo-Pacific. Questo sembra essere un genere adatto ad ospitare al momento il nuovo taxon, in particolare la struttura del seno anale di *C. aliena* mostra una forte somiglianza con quello di *C. striata*. Vengono inoltre elencate le conchiglie trovate assieme alla nuova specie nei due diversi ritrovamenti.

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INTRODUCTION

In the frame of a study carried out in the past years with the aim to characterize the bathyal assemblages from the Central Tyrrhenian Sea, off the Latium coast (Italy) (SMRIGLIO *et al.*, 1996), we have been continuing the investigation on the molluscan fauna occurring in the deep-sea coral and muddy-bathyal communities ("biocenose des coraux blancs, CB" and "biocenose des vases bathyales, VB": PÉRÈS & PICARD, 1964) of this area. Several interesting and poorly known species belonging to the family-group Turridae H. & A. Adams, 1853 *s. l.* have been reported from the dredged material so far examined (SMRIGLIO *et al.*, 1987a, 1987b, 1988). During the sorting of a sample collected in 1987 from the muddy-bathyal bottoms of this area, we screened a very peculiar shell that could not be identified among the known Mediterranean species. At that time, Dr Philippe Bouchet (Muséum national d'Histoire naturelles, Paris), kindly answering to our request of identification pointed out the relationship between some morphological characters of this specimen and the ones present in the Indo-Pacific genus *Conopleura* Hinds, 1844 (*in litt.* 20-12-1988). In May 1997, a second specimen of this still unidentified species was collected off Sicilian coast, dredged at a depth of 105 m from a muddy bottom. This individual is smaller and was found within a glass bottle. This second finding has prompted us to describe in this

paper the species *Conopleura aliena* n. sp. as new to science. Because the new taxon is only known from shells, it is conservatively placed within the family Conidae, subfamily Mangeliinae Fischer, 1884, genus *Conopleura* Hinds, 1844, according to the classification proposed by TAYLOR *et al.* (1993). We are aware that without anatomical information the new taxon described has only provisional position, but we think that at present no definitive systematic statement can be made even at the family rank in this very complicated group of molluscs.

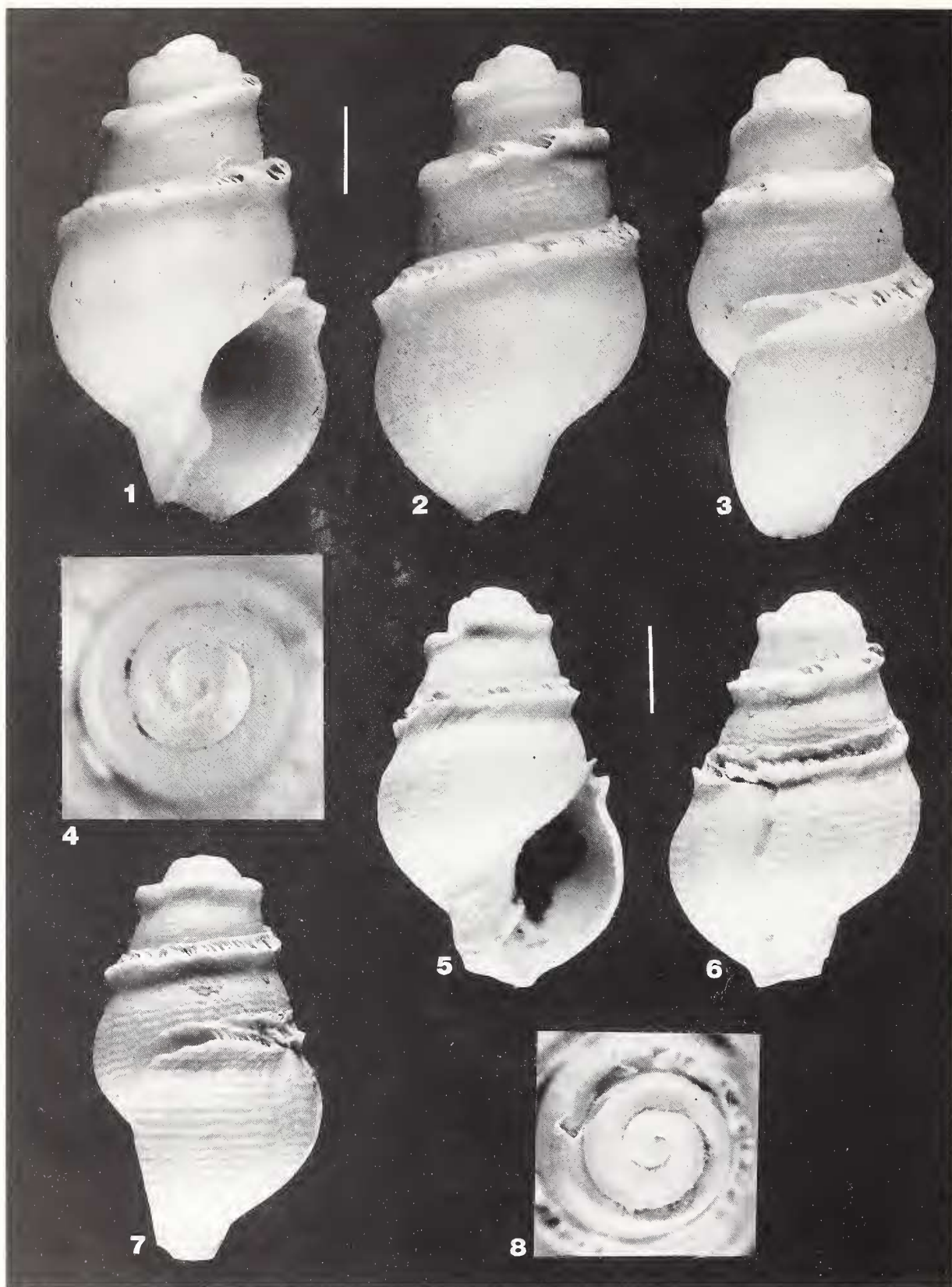
SYSTEMATICS

Superfamily	Conoidea	Rafinesque, 1815
Family	Conidae	Fleming, 1822
Subfamily	Mangeliinae	Fischer, 1883
Genus	<i>Conopleura</i>	Hinds, 1844
Species	<i>Conopleura aliena</i>	n. sp.

Conopleura aliena n. sp. (Figs. 1-8)

Type material

Type material of *C. aliena* consists of two empty shells. The holotype, 6.8 x 4.0 mm, from Central Tyrrhenian Sea (41°51'N - 011°28'E), 350 m depth, collected from a muddy-bathyal bottom (*sensu* PÉRÈS & PICARD 1964) surrounding a deep-sea coral



Figures 1-4. *Conopleura aliena* n. sp. Holotype. Frontal, dorsal and lateral views, and particular of the protoconch. 6.8 x 4.0 mm. Central Tyrrhenian Sea (41°51'N;11°28'E), 350 m depth. MZB collection (Italy). Scale bar is 1.0 mm for figs 1-3. Figures 5-8. *Conopleura aliena* n. sp. Paratype. Frontal, dorsal and lateral views, and particular of the protoconch. 5.0 x 3.5 mm. Southern Tyrrhenian Sea, off Isola delle Femmine (PA), Sicily, 105 m depth. Private collection of S. Calascibetta, Palermo (Italy). Scale bar is 1.0 mm for figs 5-7.



bank, is deposited in the malacological collection of the Museo di Zoologia dell'Università di Bologna (MZB), Italy, with the number 12694. The paratype, 5.0 x 3.5 mm, from Southern Tyrrhenian Sea (off the Isola delle Femmine, Palermo), 105 m depth, found within a glass bottle collected from a muddy circalittoral bottom, is deposited in the private collection of Sergio Calascibetta, Carini (PA), Italy.

Description

Shell small, light, turriculate, slender posteriorly. Protoconch paucispiral intorted of one whorl, smooth, almost planospiral, without microsculpture. Teleoconch of four and a half whorls, slightly convex, body profile gradate, sculpture consisting of numerous wavy and equally spaced spiral striae, crossing the few and faint axial growing lines, which are irregularly distributed. Suture strong and pronounced, anal sinus sutural and very deep, with the sulcus only partially obliterated during the shell development; where the sulcus is not completely sealed along the body whorls, a sort of lamellate scar is clearly evident. Aperture narrow, sigmoid-shaped, about half of the entire height, siphonal canal short. Peristome convex and sinuous with an evident columellar rib, outer lip thin. Umbilicus absent. Colour whitish, uniform and semi-matt. Animal unknown.

Etymology

The specific name *aliena*, which means in Latin extraneous, refers to the peculiar shell shape never observed before in any genus of the family occurring in the Mediterranean Sea.

Type locality

Central Tyrrhenian Sea, 41°51'N - 011°28'E.

Distribution

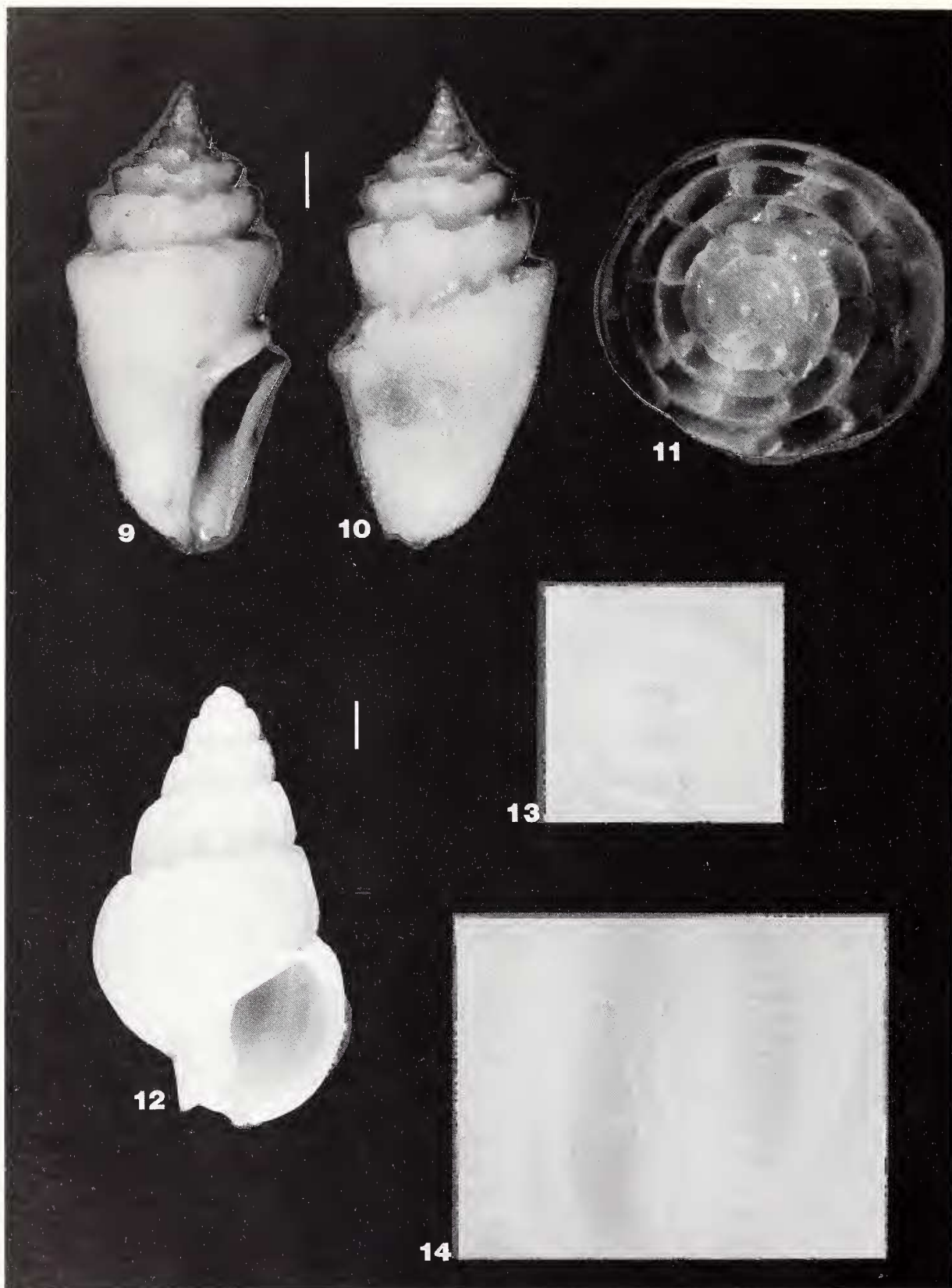
Only known from the Central and Southern Tyrrhenian Sea, and showing a range of bathymetry from 100 to 350 m.

REMARKS

The "Revision of the northeast Atlantic bathyal and abyssal Turridae" by BOUCHET & WARÈN (1980) allows a comprehensive view of the species of the family Turridae *s. l.* normally occurring below 300 m of depth in the North-East Atlantic Ocean and in the Mediterranean Sea. In that work, we could not find any species resembling the new taxon proposed. Furthermore, we have been unable to find *C. aliena* neither in the literature analyzed and referring to the Recent (DALL, 1889; DAUTZENBERG & FISCHER, 1896; LOCARD, 1897; NORDSIECK, 1968, 1973, 1977; DI GERONIMO & PANETTA, 1973; DI GERONIMO, 1974; CURINI-GALLETTI, 1977; WARÈN, 1980; TERRENI, 1981; MOSQUERA, 1983; BOGI, 1986; CECALUPO & GIUSTI, 1986; CARCASSI, 1987; BOUCHET & TAVIANI, 1989; SABELLI *et al.*, 1990, 1992; GIRIBET & PENAS, 1997; RÓLAN *et al.*, 1998) and fossil (CERULLI-IRELLI, 1910; MALATESTA, 1974; CAPROTTI, 1976; RINDONE & VAZZANA, 1989; VAZZANA, 1991; CAVALLO & REPETTO, 1992; FERRERO & MERLINO, 1992; BONFITTO *et al.*, 1994; CHIRLI, 1997) species of the family Turridae *s. l.*, nor in the collections of Recent and fossil Mediterranean

and Atlantic shells, that we have had the chance to examine so far. As suggested by Dr Philippe Bouchet (Muséum national d'Histoire naturelle, Paris; *in litt.* 20-12-1988) and in our opinion, the monotypic Indo-Pacific genus *Conopleura* Hinds, 1844, (type species *Conopleura striata* Hinds, 1844), is a taxon in which the new species can be at least provisionally placed. In fact, there is a strong similarity in the lamellate sculpture of the anal sinus between the two shells. On the contrary, the teleoconch shapes, the apertures and the spiral sculptures are quite different, as well as the shapes, sculptures and number of the protoconch whorls. A specimen of *Conopleura striata* Hinds, 1844, dredged off Bohol, Philippines, has been figured for comparison (Figs. 9-11). We think worth quoting the description by POWELL (1966) on the shell of *Conopleura*: "Shell small, 8.2 mm., broadly biconical, resembling *Encithara* in a general way but with several peculiar features. The shoulder sulcus is a series of deep pits, separated by thin radiating lamellae, the effect when viewed from above being like the spokes of a wheel. The axial sculpture is lyrate, in the form of broadly rounded flattened flexuous axials, which rise above the lower edge of the shoulder concavity, giving a serrated or coronated effect. The whole surface is crossed by a very distinctive type of spiral sculpture which is in the form of wavy oblique lirations, which widely diverge as the whorls increase. The aperture is narrow and sinuous, terminating in a short unnotched canal, and there is a slight false umbilicus. The outer lip is thin and has a deep narrow and oblique subsutural sinus, which is constricted at its entrance by a massive parietal callus pad. Colour dull white or buff. Range - New Guinea in 7 fathoms (Type) and near the south coast of Timor in 34 metres".

The prosobranch gastropod superfamily Conoidea (=Toxoglossa), shows extreme diversity, according to the recent classification proposed by TAYLOR *et al.* (1993) includes six families. Among these, the family Conidae, which in turn has been subdivided into seven subfamilies, offers a suitable allocation for the new taxa. In particular, the subfamily Mangeliinae, which contains the genus *Conopleura*, has several shell diagnostic features matching the ones of *C. aliena* (TAYLOR *et al.*, 1993). In particular, the small shell size, the presence of a deep labial sinus on the shoulder, siphonal canal short and the protoconch smooth (in the case of *C. aliena* the paucispiral protoconch indicates a non-planktotrophic larval development). Since the new taxon is described only on shell characters, we prefer conservatively assigned it to pre-existing high order groups, at present tentatively placing *C. aliena* in the genus *Conopleura*. At the mean time, the extreme uniqueness of the shell morphology shown by *C. aliena*, has prompted us to describe it as a new species in spite of the absence of any anatomical data. At first glance, the general shape of the two shells under investigation resembles the one of a nassariid, the possibility that these teleoconchs are the same teratological form of some mediterranean bathyal nassariid sp. has been taken into account. We think that, besides the obvious presence of the subsutural sinus-slit, the overall sculpture and the smooth protoconch of *C. aliena* are not comparable to the ones shown by the only nassariid, *Nassarius lima* (Dillwin, 1817) (Figs. 12-14), normally occurring at that depth in the Mediterranean Sea and, in fact, present in the malacofauna found together with *C. aliena*. In particular, the



Figures 9-11. *Conopleura striata* Hinds, 1844. Frontal and lateral views, and particular of the protoconch. 16.5 x 8.0 mm. Bohol (Philippines). Private collection of L. Bozzetti, Milano (Italy). Scale bar is 2.0 mm for figs 9-10. Figures 12-14. *Nassarius lima* (Dillwin, 1817). Frontal view, particulars of the protoconch and teleoconch sculpture. 9.5 x 5.3 mm. Central Tyrrhenian Sea (41°51'N, 11°28'E), 350 m depth. Scale bar is 1.0 mm for fig. 12.



sculpture of *N. lima* is consisting of equally spaced strong axial ribs, crossed by equally spaced pronounced spiral cordelets, which confer a reticulated looking to the shell surface. At a higher magnification, it can be observed that the spacing among the axial ribs are filled by tiny axial striae (Fig. 14). On the contrary, the teleoconch sculpture of *C. aliena* shows only wavy and equally spaced spiral striae crossing faint axial growing lines. Since the apex morphology shown by *C. aliena* is not the one of a typical turrid, the possibility that the real protoconch whorls may have been lost, exposing a domed internal callous plug, is not ruled out. In spite of the fact that in nassariids the protoconch erosion/plug formation is a common phenomenon, we have never observed something similar to that in *N. lima*. On the other hand, if apex lost is a "normal" event during the growth of *C. aliena*, its systematics could be dramatically changed according to the observation of the real protoconch.

We have identified shells of several other mollusc species found with *C. aliena* that are worthy to list. Those occurring with the holotype and collected from the bathyal zone of the Central Tyrrhenian Sea are: *Propilidium exiguum* Thompson, 1843, *Lepetella* cf. *laterocompressa* (De Rayneval & Ponzi, 1854), *Emarginula tenera* Locard, 1892, *Clelandella miliaris* (Brocchi, 1814), *Danilia otaviana* (Cantraine, 1835), *Putzeysia wiseri* (Calcara, 1842), *Alvania cimicoides* (Forbes, 1844), *Alvania subsoluta* (Aradas, 1847), *Orbitestella dariae* (Liuzzi & Stofa Zucchi, 1979), *Trophon muricatus* var. *barvicensis* (Johnston, 1825), *Nassarius lima* (Dillwin, 1817), *Amphissa acutecostata* (Philippi, 1844), *Granulina gofasi* Smriglio & Mariottini, 1996, *Gymnobela abyssorum* (Locard, 1897), *Microdrillia loprestiana* (Calcara, 1841), *Pleurotomella demosia* (Dautzenberg & Fischer P., 1896), *Pleurotomella gibbera* Bouchet & Warén, 1980 ex Jeffreys ms., *Teretia teres* (Reeve, 1844), *Heliacus alleryi* (Seguenza G., 1876), *Mathilda cochlaeformis* Brugnone, 1873, *Japonacteon pusillus* (McGillivray, 1843), *Asperarca nodulosa* (Müller, 1776), *Chlamys bruei* (Payraudeau, 1826) and *Cadulus subfusiformis* (Sars M., 1865). Those occurring with the paratype and collected from the circalittoral zone of the Southern Tyrrhenian Sea are: *Lepetella* cf. *laterocompressa* (De Rayneval & Ponzi, 1854), *Alvania cimicoides* (Forbes, 1844) and *Cadulus subfusiformis* (Sars M., 1865). We point out that these species are also present in the taphocoenosis found with the holotype. In conclusion, we think that *C. aliena* is a rare species and at present its records are limited to the Tyrrhenian Sea (Fig. 15), further findings of this species are needed to clarify its systematic position and its occurrence in all the Mediterranean basin.

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REFERENCES

- BONFITTO A., OLIVERIO M., SABELLI B. & TAVIANI M., 1994. A quaternary deep-sea mollusca assemblage from the East Sardinia (Western Tyrrhenian Sea). *Bollettino Malacologico*, Milano, 30 (5-9): 141-157.
- BOUCHET P. & TAVIANI M., 1989. Atlantic deep Sea gastropods in the Mediterranean: new finding. *Bollettino Malacologico*, Milano, 25 (5-8): 137-148.
- BOUCHET P. & WARÉN A., 1980. Revision of the northeast Atlantic bathyal and abyssal Turridae. *Journal of Molluscan Studies*, suppl. 8: 1-120.
- BOGI C., 1986. Prima segnalazione di *Pleurotomella demosia* (Dautzenberg & Fischer, 1896) in Mar Mediterraneo. *Notiziario CISM*, Roma, 7/8: 27-28.
- CAPROTTI E., 1976. Malacofauna dello stratoripio piacentiano (Pliocene di Castell'Arquato). *Conchiglie*, Milano, 12 (1-2): 1-56.
- CARCASSI A., 1987. Recent findings of rare or poorly known species in southern Sardinia. *La Conchiglia*, Roma, 222/223: 18-19.
- CAVALLO O. & REPETTO G., 1992. *Conchiglie fossili del Roero*. *Atlante Iconografico*. Ass. Naturalistica Piemontese, Memorie. Vol. II. Ass. Amici del Museo "F. Eusebio", Alba, 251 pp.
- CECALUPO A. & GIUSTI F., 1986. Rinvenimenti malacologici a Sud Ovest dell'isola di Capraia (LI). *Bollettino Malacologico*, Milano, 22 (9-12): 293-298.
- CERULLI-IRELLI S., 1910. Fauna malacologica mariana. Parte 4. *Paleontografia Italica*, Pisa, 16: 23-70.
- CHIRLI C., 1997. *Malacofauna pliocenica toscana*. Vol. I. *Superfamiglia Conoidea*. Arti Grafiche B. M. B., Firenze, 129 pp.
- CURINI-GALLETTI M., 1977. Note su alcuni molluschi rinvenuti nelle acque dell'Isola della Maddalena. *La Conchiglia*, Roma, 101: 17-19.
- DALL W. H., 1889. *Reports on the results of dredging, under the supervision of Alexander Agassiz, in the Gulf of Mexico (1877-1878) and in the Caribbean Sea (1879-1880), by the U.S. coast survey steamer "Blake"*. *Bulletin of the Museum of Comparative Zoology, part II Gastropoda e Scaphopoda*. Vol. XVIII. New York, 492 pp.
- DAUTZENBERG P. & FISCHER H., 1896. Campagnes scientifiques de S.A. le Prince Albert I de Monaco. Dragages effectués par l'Hi-rondelle et par la Princesse-Alice. 1888-1895. *Mémoires de la Société de Zoologie de France*, Paris, 9: 395-498.
- DI GERONIMO I. & PANETTA P., 1973. La malacofauna batiale del Golfo di Taranto. *Conchiglie*, Milano, 9 (5-6): 69-122.
- DI GERONIMO I., 1974. Molluschi bentonici in sedimenti recenti batiali e abissali dello Jonio. *Conchiglie*, Milano, 10 (7-8): 133-172.
- FERRERO E. & MERLINO B., 1992. Ricostruzione paleogeologica di una malacofauna del bacino pliocenico astigiano (Italia N. W.). *Bollettino Malacologico*, Milano, 28 (5-12): 101-138.
- GIRIBET G. & PENAS A., 1997. Fauna malacologica del litorale del Garraf (NE de la península Ibérica). *Iberus*, Oviedo, 15 (1): 41-93.
- LOCARD A., 1897. *Expéditions scientifiques du Travailleur et du Talisman*

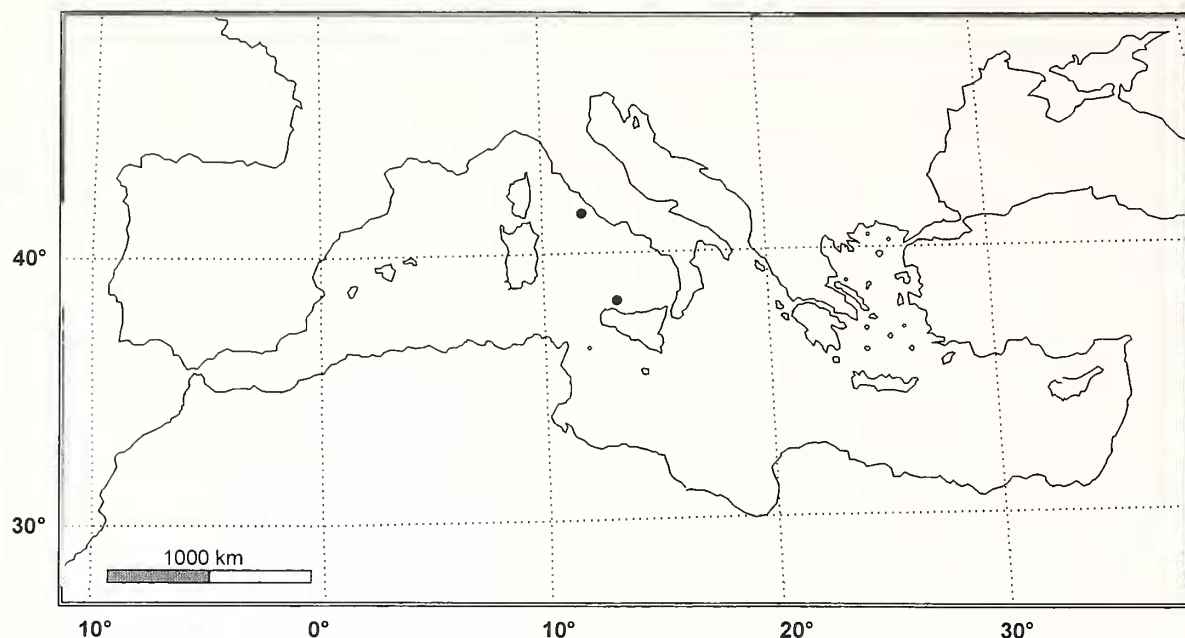


Figure 15. Records of *Conopleura aliena* n. sp. (●) in the Mediterranean Sea.

pendant les années 1880-1883. *Mollusques testacés. Tome premier.* Paris, 516 pp.

MALATESTA A., 1974. *Malacofauna pliocenica umbra. Memorie per servire alla descrizione della carta geologica d'Italia. Vol. 13.* Stabilimento Tipografico Ugo Pinto, Roma, 498 pp.

MOSQUERA E. R., 1983. *Moluscos de la ría de Vigo. I Gasteropodos.* Santiago de Compostela, 383 pp.

NORDSIECK F., 1968. *Die europäischen Meeres-Gehäuseschnecken (Prosobranchia) Vom Eismeer bis Kapverden und Mittelmeer.* Gustav Fischer Verlag, Stuttgart, 273 pp.

NORDSIECK F., 1973. Molluschi abissali dello Jonio. *La Conchiglia*, Roma, 57/58: 4-7.

NORDSIECK F., 1977. *The Turridae of the European Seas.* La Piramide per La Conchiglia, Roma, 131 pp.

PÈRES J. M. & PICARD J., 1964. Nouveau Manuel de Bionomie Benthique de la Mer Méditerranée. *Recueil des Travaux de la Station Marine d'Endoume*, 31 (47):1-137.

POWELL A. W. B., 1966. The molluscan families Speightiidae and Turridae. *Bulletin of the Auckland Institute and Museum*, Auckland, 5: 1-184.

RINDONE V. & VAZZANA A., 1989. Alcune specie di molluschi delle argille batiali del piano siciliano (Pleistocene inf.) della cava di Archi (Reggio Calabria). *Bollettino Malacologico*, Milano, 25 (5-8): 233-240.

ROLÁN E., OTERO-SCHMITT J. & FERNANDES F., 1998. The family Turridae s.l. (Mollusca, Gastropoda) in Angola (West Africa), 1. Subfamily Daphnellinae. *Iberus*, Oviedo, 16 (1): 95-118.

SABELLI B., GIANNUZZI-SAVELLI R. & BEDULLI D., 1990. *Catalogo Annotato dei Molluschi Marini del Mediterraneo. Vol. 1.* Libreria Naturalistica Bolognese, Bologna, 348 pp.

SABELLI B., GIANNUZZI-SAVELLI R. & BEDULLI D., 1992. *Catalogo annotato dei Molluschi marini del Mediterraneo. Vol. 2.* Libreria Natu-

ralistica Bolognese, Bologna, 150 pp.

SMRIGLIO C., MARIOTTINI P. & GRAVINA F., 1987a. Molluschi del Mar Tirreno Centrale: ritrovamento di *Typhlomangelia nivalis* (Lovèn, 1846). Contributo I. *Bollettino Malacologico*, Milano, 23 (1-4): 47-52.

SMRIGLIO C., MARIOTTINI P. & GRAVINA F., 1987b. Molluschi del Mar Tirreno Centrale: segnalazione di alcuni Turridi provenienti da una biocenosi a coralli bianchi. Contributo II. *Bollettino Malacologico*, Milano, 23 (11-12): 381-390.

SMRIGLIO C., MARIOTTINI P. & GRAVINA F., 1988. Molluschi del Mar Tirreno Centrale: segnalazione di *Pleurotomella packardii* Verrill, 1872. Contributo V. *Bollettino Malacologico*, Milano, 24 (5-8): 148-149.

SMRIGLIO C. & MARIOTTINI P., 1996. Molluschi del Mar Tirreno Centrale. Contributo XII. Descrizione di una nuova specie di Cystiscidae Stimpson, 1865 per il Mar Mediterraneo: *Granulina gofasi* n. sp. *La Conchiglia*, Roma, 281: 54-56.

TAYLOR J. D., KANTOR Y. I. & SYSOEV A. V., 1993. Foregut anatomy, feeding mechanisms, relationships and classification of the Conoidea (= Toxoglossa) (Gastropoda). *Bulletin of the Natural History Museum of London (Zool.)*, London, 59 (2): 125-170.

TERRENI G., 1981. *Molluschi conchiferi del mare antistante la costa toscana (Gastropoda, Scaphopoda, Amphineura, Bivalvia, Cephalopoda).* Livorno, 106 pp.

VAZZANA A., 1991. Malacofauna tortoniana di Benestare (Reggio Calabria). *Atti Accademia Peloritana dei Pericolanti. Classe I di Scienze Fis. Mat. e Nat. LXVII, Supplemento 1*: 99-113.

WARÉN A., 1980. *Marine Mollusca described by John Gwyn Jeffreys, with the location of type material.* Conchological Society of Great Britain and Ireland, Special Publication 1, London, 60 pp.

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